

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: T. MIYAZAWA, ET AL.
Serial No: 10/790,203
Filed: March 2, 2004
Title: ACTIVE MATRIX TYPE DISPLAY DEVICE
Group: 2629
Examiner: Leonid Shapiro
Conf. No.: 1027

REQUEST FOR RECONSIDERATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

July 16, 2007

Sir:

In response to the Office Action dated January 16, 2007, the period of response for which extension is requested by the attached Petition for Extension of Time, Applicants respectfully request reconsideration for the reasons set forth below.

Briefly, the present claimed invention is directed to an improved arrangement for an active matrix type display device which includes either inverter circuits or a memory circuit driven by a pair of AC voltages from a pair of AC power supply lines formed on the same substrate as the inverters or memory circuit. As discussed in the Background of the Invention and in the Summary of the Invention, previous active matrix systems have been developed which utilize high and low fixed DC voltages for driving the memory of a display. Unfortunately, as discussed on pages 6 and 7, these arrangements have suffered from lowering of the numerical aperture and

increasing the overall size of the device. Therefore, as discussed in the Summary of the Invention on pages 7 et seq., the present invention uses AC power lines to deliver a pair of AC voltages for driving the inverters or memory circuit. As particularly noted on page 10, in paragraph [0025]:

“due to such constitutions, the number of wiring can be decreased thus preventing the lowering of the numerical aperture of the pixels whereby the image display of a multiple gray scales and high definition can be realized”.

Reconsideration and removal of the rejections of all of the pending claims set forth in paragraphs 2 and 3 of the Office Action based on the references to Sato (USP 5712652) in view of Hideo (JP 5802391) and Troutman (US 2001/0043173), whether considered or in combination with one another, is respectfully requested. With regard to this, it is noted that independent claim 1 specifically defines a pair of AC power supply lines formed on the substrate:

“wherein the first inverter circuit and the second inverter circuit are supplied with a pair of AC voltages from the AC power supply line.”

Independent claim 8 defines a memory circuit, comprised of a first inverter circuit “which is supplied with a pair of AC voltages from the AC power supply lines.” Finally, independent claim 14 defines a memory circuit connected to a transistor and a pixel electrode:

“wherein the memory circuit is formed with a pair of AC voltages from the AC power supply lines.”

The Office Action recognizes at several locations that the primary reference to Sato fails to teach a pair of AC power supply lines, formed on the substrate, for supplying a pair of AC voltage either to inverter circuits and/or a

memory circuit, as required by the independent claims. However, the Office Action seeks to overcome the recognized shortcoming in the primary reference by relying on the Hideo reference. In particular, it is stated, for example, on page 3, line 7 et seq. of the Office Action that Hideo supplies a pair of AC voltages to the first and second inverter circuit, as required in claim 1. With regard to claims 8 and 14, it is stated on pages 4 and 5, respectively, that Hideo also teaches providing a pair of AC voltages to a memory circuit. Thus, the entire basis for the rejection is the modification of the primary reference to Sato with the teachings of the secondary reference to Hideo to utilize a pair of AC voltages to drive the elements of Sato.

In response to this, Applicants respectfully submit that a careful review of Hideo leads to the clear conclusion that Hideo does not, in fact, teach or suggest supplying AC power to the claimed elements of inverters or a memory circuit. Instead, Hideo teaches the application of an AC voltage to control nodes of a pair of switching circuits. In other words, the example of Figure 9 referred to in the Office Action actually shows the alternating current drive being provided to switching circuits, not inverters. Hideo does, in fact, disclose first and second inverter circuit, but fails to disclose any power source for actually driving these inverters. As such, there is no actual teaching in Hideo for the claimed use of a pair of AC voltages for driving either inverter circuits or a memory circuit. Therefore, reconsideration and removal of the rejections set forth in paragraphs 2 and 3 of the Office Action with regard to the independent claims 1, 8 and 14 of the present application is respectfully requested.

Reconsideration and allowance of the dependent claims 2-7, 9-13 and 15-20 is also respectfully requested. These dependent claims define further specific details of the invention, which, when combined with the features of their respective parent independent claims, serve to even further define over the cited prior art. These features include the specific connections of the inverter circuits and the arrangement of the AC power supply lines. Inasmuch as the cited prior art fails to teach or suggest any connection between an AC voltage and inverters and/or a memory circuit, it is respectfully submitted that these detailed features define in the dependent claims serve to very clearly emphasize even further distinctions over the cited prior art. Therefore, reconsideration and allowance of these dependent claims as well is respectfully requested.

If the Examiner believes there are any points which can be resolved either by way of a telephone or personal interview, the Examiner is invited to contact Applicants undersigned attorney at the number indicated below.

To the extent necessary, Applicants petition for an extension of time under 37 CFR §1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (Case No. 501.40202CX1) and please credit any excess fees to such deposit account.

Respectfully submitted,

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Attachments